

ENVIRONMENTAL ASSESSMENT WORKSHEET

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at:

<http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm>. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

Scott County must receive comments on this EAW by 4:30 p.m. on Wednesday, May 27, 2015

1. Project title:

Quarry Creek Stabilization Project

2. Proposer:

Contact person: Paul Nelson
Title: Environmental Services Manager
Address: 200 Fourth Ave. W.
City, State, ZIP: Shakopee, MN 55379
Phone: (952) 496-8054
Fax: (952) 496-8496
Email: pnelson@co.scott.mn.us

3. RGU

Contact person: Paul Nelson
Title: Environmental Services Manager
Address: 200 Fourth Ave. W.
City, State, ZIP: Shakopee, MN 55379
Phone: (952) 496-8054
Fax: (952) 496-8496
Email: pnelson@co.scott.mn.us

4. Reason for EAW Preparation: (check one)

Required:

- ☐ EIS Scoping
☒ Mandatory EAW

Discretionary:

- ☐ Citizen petition
☐ RGU discretion
☐ Proposer initiated

5. Project Location:

County: SCOTT COUNTY
City/Township: Blakeley Twp.
PLS Location (1/4, 1/4, Section, Township, Range): T113N, R25W, sec. 3 (SE 1/4, SW 1/4) and 10
Watershed (81 major watershed scale): 33
GPS Coordinates: 44° 36' 32.6" N, 93° 48' 10.9" W
Tax Parcel Number: 41-6005892

At a minimum attach each of the following to the EAW:

- ☒ County map showing the general location of the project (Attachment A);
- ☒ U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable) - (Attachment B); and
- ☒ Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan (Attachment C).

6. Project Description:

- a. Provide the brief project summary to be published in the *EQB Monitor*, (approximately 50 words).

This project stabilizes erosion in a ravine using a combination of runoff detention, grade control, and streambank treatments. Extreme rainfall in recent years has generated so much sediment that the bridge at County Road 6 (CR 6) has been blocked multiple times. This causes road closures and maintenance costs.

- b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.

The proposed project will stabilize active erosion in four areas within a ravine system known locally as Quarry Creek. The Quarry Creek ravine is roughly 2 miles southwest of the City of Belle Plaine. In recent years, erosion at the project site has become significantly worse during heavy rains. Much of the sediment washed downstream from the eroding areas has settled in the channel near the County Road 6 Bridge and Union Pacific Railroad Bridge. Scott County has annually removed thousands of cubic yards of sediment in order to maintain conveyance under the County Road 6 Bridge. Despite these efforts, the road and bridge have been closed multiple times in recent years due to sediment build-up that completely filled the bridge opening and overtopped County Road 6. During the June 2014 disaster the County Road 6 Bridge was damaged, portions of the rail washed out, and the road and rail were closed for an extended period of time (see Attachment D for photos of some of the erosion and damage).

Ravines, such as Quarry Creek, have been shown as prime areas for accelerated erosion (MPCA, 2009¹). This is due to incision of the Minnesota River by the draining of Glacial Lake Agassiz through the River Warren creating the Minnesota River valley bluffs with side tributaries left with steep gradients as they flow down/through the bluffs.

This project will focus on the four areas of accelerated erosion in Quarry Creek ravine. The ultimate goal within each area is to reduce flows and velocities within the channel and alleviate the down cutting of the channel. In Area 1 (Attachment E), the channel has down cut and bank erosion caused by runoff primarily from farm fields. The runoff discharges through a culvert approximately half way up the ravine slope between the field and the bottom of the ravine. This was an old Soil Conservation Service (SCS) conservation practice that has now reached its useful life. The work in Area 1 will include replacing the existing culvert and extending the new culvert

to the bottom of the ravine. The end of the culvert will feature a riprap stilling pool proceeding downstream to dissipate energy of the large flow velocities that have caused significant scour. Additionally, the channel downstream of the stilling pool will be lined with riprap and filter for approximately 100 feet to prevent further downcutting and erosion in the steep channel.

Area 2 (Attachment E) has severe channel incision that has caused the bed of the ravine to downcut by up to 20 feet. After the channel downcuts, the banks continue to erode and the channel gradually becomes wider. The work in Area 2 will include grading to create a consistent channel slope, check dams to slow velocities, provide grade control, stabilize nick points, and partially reconnect the channel to a floodplain; riprap-lined channel with filter in areas most vulnerable to future erosion and turf-reinforcement material on the banks above the riprap armoring of channel to provide additional erosion protection. The grading is intended to balance cut and fill volumes such that all material graded from the banks to create more stable slopes will be used to raise the channel bed. Approximately 14 rock check dams will be installed in Area 2, each approximately 5-feet tall with a low-flow channel to properly convey bankfull flows. Due to the steep grades, approximately 1,700 feet of the channel will also be lined with riprap or Turf Reinforced Mat (TRM) and filter as added protection against downcutting and erosion. To the extent possible, construction activities will be conducted from and within the dry channel itself in order to minimize disturbance and tree clearing in the surrounding forest.

Area 3 (Attachment E) has also had channel incision and bank widening. The work in Area 3 will include bank grading and check dams to raise the channel bed, reduce flood velocities, and partially reconnect the channel to the floodplain. A portion of the channel will also be lined with riprap or TRM, and filter for added erosion protection. The check dams will have an overflow channel to convey the bankfull flow and facilitate the creation of a stable channel and floodplain upstream of each check dam. The check dams are also expected to trap some sediment behind them and prevent it from being deposited at the County Road 6 and Union Pacific Bridges and the Minnesota River floodplain wetlands.

Area 4 (Attachment E) also has some channel and bank erosion in the upper extents of the ravine system. Construction activities will include lining entrance channels from County Road 60 (CR 60) to the ravine with riprap and filter to prevent additional erosion in these areas; installing a new drop manhole structure and outlet at the end of the CR 60 culvert and stabilizing the scour hole that has been created downstream of the culvert; installation of check dams near CR 60 and a private driveway to slow runoff entering the ravine system; and a sheet pile structure and outlet system to provide ≤ 15 -acre-feet of 100-year flood detention and equipped with an emergency overflow fixture at elevation 957.53. The sheet pile structure will be located just downstream of the confluence of the east and west headwater branches. The structure would be approximately 150- to 170-feet wide at the top and 24.4 feet tall. Construction of the sheet pile structure would create a temporary detention pond approximately 2.2 acres in size with the capacity detain up to 15-acre-feet of water. The sheet pile structure would include a multi-stage outlet to control the rate of water release during different storm events. There will be a low-flow outlet to slowly release detained runoff from storms roughly equivalent to the 1-year storm and drain completely within 48 hours. There will also be a riser that will convey flow during events greater than an approximately 1-year storm. It will be sized and set at an elevation such that there is one foot of freeboard between the expected 100-year water surface elevation and the emergency overflow elevation at 957.53 feet. The emergency overflow elevation is approximately 20.4-feet higher than the bottom of the ravine. The emergency overflow will be approximately 15-feet wide and

4-feet tall and will be able to convey the full peak flow from a 100-year storm. This will ensure that the structure will be able to safely convey a second 100-year storm in the event that there are back-to-back extreme storm events.

Downstream of the sheet pile structure, there will be a riprap lined stilling pool that will prevent erosion in the scenario in which the emergency overflow is used.

In addition, a low maintenance road will be incorporated into the outlet of the downstream stilling basin to allow the landowner to cross the ravine and access pasture lands on both sides and potentially allow access for structure or ravine maintenance.

Downstream portions of the ravine currently experience high flows and are at risk of future erosion, especially during peak flow events. The sheet pile structure would reduce erosion risk by reducing peak flows, slowing flow velocities downstream, and subsequently reducing downstream erosion. The XP-SWMM hydrology and hydraulics model developed for the project estimates peak flows downstream of the structure would be reduced by 33-72% during a two-year event and by 33-48% in a 100-year event, depending on the comparison location. Peak velocities downstream of the structure are estimated to be reduced by 11-28% during a 2-year event and by 8-10% in a 100-year event.

The entire project is planned to be constructed in fall and winter 2015/2016, depending on funding, and is expected to take approximately 3 to 6 months to complete. If funding is limited that project will be phased over multiple years; the exact approach to phasing the project is not yet determined. Work at each of the areas will begin by installing erosion control measures and clearing trees and brush within access routes and expected construction areas. In general, work is expected to proceed by completing rough grading and then installing permanent stabilization features in order from upstream to downstream or vice versa, depending on the site and available access routes. Each site will then be permanently stabilized with an appropriate seed mix and mulch or erosion control blanket. For the culvert at Area 1 and the detention structure at Area 4, it is expected that periodic maintenance will be required to remove debris from the structures due to upstream land use in the form of farm fields and/or forest. Not doing the project will result in continued sediment and debris issues, the need for frequent cleanouts, and closures at CR6. Headcuts and erosion problems in the ravines will continue to grow along with private property damage

c. Project magnitude:

Total Project Acreage	38.4
Linear project length	11,200 ft.
Number and type of residential units	N/A
Commercial building area (in square feet)	N/A
Industrial building area (in square feet)	N/A
Institutional building area (in square feet)	N/A
Other uses – specify (in square feet)	
Structure height(s)	20.4
Detention Volume	15 acre-ft.

- d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

The purpose of this project is to stabilize the channel from continuing to incise and prevent excessive buildup of sediment at the County Road 6 Bridge and Railroad. Some of the land owners will also benefit from reduced erosion and flooding, and associated damage.

Active channel incision and erosion has caused large amounts of sediment to be deposited in the channel under the bridge on County Road 6 and on the road itself. From 2010 to 2011, sediment issues caused 22 days of road closure; and from 2010 to 2012, 14,500 cubic yards of sediment were cleared from the channel and road surface in efforts to keep the road open. In 2013, a combination of sediment accumulation and debris jams caused the channel upstream of County Road 6 to divert flow; causing abutment scour damage to a bridge constructed in 2012 and closed the road for 3 days. In June of 2014, an estimated 11,000 cubic yards of sediment were removed from the bridge. The bridge's expansion joints blew out and the bridge was closed for 75 days. The Union Pacific railroad line also suffered damage as the base of the rail line was undermined.

This project will reduce the sediment loss from the eroding channels and ravines through the use of rock check dams and hard armoring the channel bottom. The estimated ravine erosion rates for the project are between 310 to 1551 tons of sediment per year depending on whether the erosion rate is considered "slow" or "fast". Most years it is expected that the rate would be closer to the slow estimate; however, catastrophic valley wall failures and other rarer events can push the erosion rate toward the fast rate or even higher for a given year. Stabilization techniques proposed are designed to significantly reduce channel incision, the migration of nick points and head cuts such that sediment erosion rates would be reduced by at least 75-80% within the stabilized areas. Channel armoring and grade control will be used to halt channel incision and prevent head cuts from migrating upstream. Grade control structures will also slow flow velocities upstream of the structures and reduce erosive pressures on banks. Riprap will be used to armor banks and the channel bed in locations that are vulnerable to erosion. In other locations, graded banks will be treated with TRM to provide erosion protection.

A detention pond will also be installed in Area 4. The pond is proposed to be ≤ 15 acre-ft. of storage and shall not hold water for longer than 48 hours for a designed 100-year storm event. The pond shall consist of sheet piling material along with compacted fill as the berm. The minimum life expectancy of the structure shall be 50 years. Scott County will place a permanent easement in and around this area to ensure maintenance

All four areas are a tributary to the Minnesota River which would also benefit from reducing the amount of sediment that erodes and deposits in the river each year.

- e. Are future stages of this development including development on any other property planned or likely to happen? ☐ Yes ☒ No
- f. Is this project a subsequent stage of an earlier project? ☐ Yes ☒ No
If yes, briefly describe the past development, timeline and any past environmental review.

7. **Cover types:** Estimate the acreage of the site with each of the following cover types before and after development:

	Before	After		Before	After
Wetlands	0.78 Acres	0.78 Acres	Lawn/landscaping	1.1 Acres	1.1 Acres
Deep water/streams	3.4 Acres	3.4 Acres	Impervious surface	0	0
Wooded/forest	25.2 Acres	23.8 Acres	Stormwater Pond	0	0
Brush/Grassland	3.19 Acres	3.19 Acres	Other (describe)	0.15 Acres	0.15 Acres
Cropland	5.3 Acres	5.3 Acres			
			TOTAL	38.4 Acres	38.4 Acres

The sheet pile structure will be installed to detain stormwater runoff; however it will be expected to drain completely within 48 hours if the outlet is functioning properly. The short detention time is not expected to create a permanent pool or significantly alter the vegetation community upstream of the sheet pile structure.

There will be a temporary impacts/loss of wooded/forest cover type in addition to the 1.4 acre loss shown above. This temporary impact consists of the removal of trees to access the ravines and construct the improvements, and for creating areas to stage the construction. However, these disturbed areas will be seeded with native plants and allowed to revert back to woods and forests. The 1.4 acre permanent loss area is an area where the land owner wants to maintain a wildlife food plot post construction.

8. **Permits and approvals required:** List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. *All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.*

Unit of Government	Type of Application	Status
USACE	Clean Water Act Section 404	Application to be submitted
MnDNR	Public Waters Work Permit	Application to be submitted
MnDNR	Dewatering Permit	Application to be submitted if dewatering becomes necessary.
MPCA	NPDES General Construction Stormwater Permit	Application to be submitted
MPCA	Clean Water Act Section 401	Application to be submitted
Scott County	Grading Permit	Application to be submitted

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19

9. Land use:

a. Describe:

- i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands.

The proposed project area is located in an area where much of the area has been in continuous agricultural production since at least 1937. The four construction areas and adjacent ravines are located in an area that has largely not been disturbed by row crop agricultural operations; however, portions may have been pastured in the past. The creek valleys and ravines, where the project is proposed, are too steep for cultivation and are currently forested. The growth of the adjacent riparian forest, including many large species of oak trees, and steep slopes indicates the area was largely not used in the agricultural operations on the site. The site is surrounded by fields that have been used in a variety of agricultural operations, including row crop agriculture and pasture. A 2013 aerial photograph (Attachment A) shows agricultural nature of the operations surrounding the site. There are a few adjacent home sites near the project area and adjacent ravines, however, due to the steepness of the land the houses are setback from the top of the ravines and away from the channel. There are prime farmlands surrounding the project (Attachment F), however, construction is limited to the channel where no agricultural land is present.

- ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.

This area is currently zoned as Agricultural Preservation (A-1). The proposed stabilization is fully compatible with the adjacent land uses, both existing and proposed as allowed under the zoning ordinance. The Scott County Zoning Districts are shown in Attachment G.

- iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

All four areas are located within the Bluff Zone (Attachment H) as identified in the Scott Watershed Management Organization Comprehensive Water Resource Management Plan. The west branch of Area 4 and the west branch and north of the confluence of the two streams, in Area 3, are DNR protected (Attachment I). Since these areas are DNR protected waters they are identified as being in the Shoreland Protection Zone see Attachment J.

- b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

The proposed stabilization is fully compatible with the adjacent land uses, both existing and proposed as allowed under the zoning ordinance. The project is being designed as a benefit to the natural resource communities in and around the area.

- c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

The proposed work will not adversely affect the bluff. Largely the work is at the toe of the bluff and no earthwork is proposed on bluff faces which are defined in the Comprehensive Water Resource Management Plan. Bluff faces that may experience construction shall either be returned to its pre-construction state or have permanent vegetation established.

Only the west branch of Area 4 and parts of Area 3 are located in the Shoreland Protection Zone due to this branch being identified as a DNR protected water. When the east and west branches connect in Area 3 (near the end of the project), this last roughly 1,500', is also considered DNR protected. The minimal amount of tree clearing will be done to install any of the BMPs. In Area 3, access to install the rock check dams and armoring of the channel will likely not result in very many trees removed. This area is fairly open and not as densely wooded as the east branch or upper end of the west branch of the project. In Area 4, there are only two rock check dams proposed and the detention pond. The detention pond will have some trees cleared around the dam location. Some trees may need to be cleared to access these two rock check dams as well. None of the proposed activities will infringe upon the Shoreland Protection Zone where parameters have been established to protect these areas.

10. Geology, soils and topography/land forms:

- a. Geology – Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

Based on information obtained from the Scott County Geologic Atlas, there are no geologic hazards present at the site. The bedrock geology underneath the project site is the Franconia (Tunnel City), St. Lawrence, and Jordan Sandstone Formation. This site is surrounded by three fault lines that displace the surrounding bedrock formations, so that older bedrock formations are next to younger bedrock formations (Attachment K). The project site is in an area of high susceptibility to groundwater contamination because of unconfined/shallow aquifers. Proposed excavations are shallow and should not affect or contaminate groundwater.

- b. Soils and topography – Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

Based on data from Scott County, surface soils within the construction limits are mostly comprised of Hayden and Lester soils. The taxonomic classification for Hayden soils is, “Typic Hapludalfs, Fine-Loamy, Mixed, Mesic” and for Lester soils is, “Mollic Hapludalfs, Fine-Loamy, Mixed, Mesic”. For each soil type within the construction limits the symbols and descriptions are listed in the table to the right. The mapped soils are indicated in Attachment L.

Symbol	Description
Ta	Terrace escarpments
Ab	Alluvial land, frequent overflow, 0 to 6 percent slopes
Cc	Comfrey silty clay loam
EaA	Estherville loam and sandy loam, 0 to 2 percent slopes
Sb	Steep land, hayden-lester materials
HaF2	Hayden loam, 25 to 35 percent slopes
LcC	Lester loam, 6 to 12 percent slopes
LcB2	Lester loam, 2 to 6 percent slopes, moderately eroded
HaC	Hayden loam, 6 to 12 percent slopes
HaB	Hayden loam, 0 to 6 percent slopes
HaD	Hayden loam, 12 to 18 percent slopes
Wb	Webster-Glencoe silty clay loams
LcC2	Lester loam, 6 to 12 percent slopes, moderately eroded
LcB	Lester loam, 2 to 6 percent slopes
LcB2	Lester loam, 2 to 6 percent slopes, moderately eroded

The project had six soil borings taken at a variety of locations around the project site. The soil borings ranged from 60 to 85 feet deep and the findings consisted mostly of sandy soils. The results of the borings are found in Attachment M.

The project is within what is classified as “bluff” which is defined as a 25’ of elevation drop with a 30% or greater slope in the Scott Watershed Management Comprehensive Water Resource Management Plan. Most of the proposed work will take place at the bottom of these bluffs and will leave the steep slopes largely untouched by construction activities. There is a significant change in elevation from the upstream end of the project to the downstream end. This elevation change is estimated at 226’ of drop. General topography of the area is shown on the USGS map Attachment B.

The project is estimated to be cut/fill neutral and no proposed fill or excavated material will be imported or exported from the site. The estimated area of construction limits is 48.2 ac.

However, construction shall be limited to be as minimally invasive as possible. The only proposed areas to have active construction will be the channel which has a width of <50'.

An NPDES construction permit shall be obtained before any work commences and Stormwater Pollution Prevention Plan prepared to minimize erosion and soil loss during construction. The Project will also be constructed over the winter to minimize the risk of rainfall and erosion while working in the ravines. Each area will have erosion control measures installed before construction begins. In addition, the permanent stabilization practices are designed for a design life of 30 years. The overall purpose of the project is to reduce the amount of erosion and mass wasting occurring in the creek valley/ravines. The design focuses on slowing down the flow velocities using a combination of upstream detention and check dams to raise the grade. There are also some reaches with channel stabilization (riprap or turf reinforced mat) or slope toe protection. The project does not intend to repair or stabilize escarpments where landslides have occurred. Thus, erosion will be significantly lessened but not eliminated. Estimates completed by the Design Engineer are that the project will reduce sediment erosion rates by at least 75-80% within the stabilized areas.

11. Water resources:

- a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.
 - i. Surface Water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

The project will alter the channels through filling and excavating. Riprap will be used as rock check dams within the channel and some areas of the channel will be lined with riprap or a turf reinforced mat. A detention pond is planned in Area 4 that will impound ≤ 15 acre-feet of water. The detention pond outlet will consist of sheet piling material and an earthen dam. The Public Waters Inventory (PWI) for Scott County lists the west branch (Attachment I) as an unnamed Tributary to the Minnesota River (PWI #MNR). There are two other mapped Protected Waters within 1 mile of the project one of which is the Minnesota River and the other is Roberts Creek. Roberts Creek is a completely different watershed and will not be affected. The project will benefit the Minnesota River by reducing sediment export. The Minnesota River is impaired for turbidity, Mercury in fish tissue, Pcb in fish tissue and fecal coliform. Roberts Creek is not listed on the MPCA Impaired Waters Inventory.

- ii. Groundwater - aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

There were six soil borings taken in and around the project area (Attachment M). The borings ranged in depth from 60 to 85 feet deep. Only three of the soil boring locations, SB-4, SB-5, SB-6 groundwater was discovered. The groundwater varied at depths between 17-20 feet between the three aforementioned soil borings. The remaining three

soil borings did not encounter groundwater. Observation of the unnamed tributary indicates it is intermittent and dry except during storms for most of its length. The exception is the reach between Areas 2 and 4 (Attachment E) where a small amount 0.5 - 1 cfs of baseflow has been observed. However, no construction is proposed in this area.

The project is not within the MDH wellhead protection area. The closest protection area is roughly 3 miles away.

There are six wells within the two sections the project is located within. These six wells will not be affected by the project. The well record logs along with a map of their locations are found in Attachment N.

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

- i. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.
 - 1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.
 - 2) If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.
 - 3) If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.

No permanent wastewater sources are proposed as part of this project. Portable restroom facilities will be required for the use of the construction crew during the duration of construction.

- ii. Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.

There are no plans for the volume of stormwater to be affected by the project and no new impervious surfaces are proposed. Construction activities will include lining entrance channels from CR 60 to the ravine with riprap and filter to prevent additional erosion in these areas; installing a new drop manhole structure and outlet at the end of the CR 60 culvert and stabilizing the scour hole that has been created downstream of the culvert.

Currently there are no erosion control measures below the pipe so this should be beneficial for reducing erosion. The pipe and inlet under CR 60 may be replaced as part of the project.

Detention of runoff is proposed on the upstream end of the west branch to decrease flow and velocities along with downstream erosion (See tables below). Permanent erosion control measures were described previously as part of questions 6b and d, and 10b; and area shown on the 60% designs included as Attachment C.

Peak Flow Reductions at Comparison Locations				
	Point*	Existing Flow (cfs)	Detention Pond (cfs)	Percent Change
100-Year Event	A	430	242	-44%
	B	475	249	-48%
	C	696	397	-43%
	D	854	573	-33%
10-Year Event	A	221	79	-64%
	B	242	80	-67%
	C	345	191	-45%
	D	415	272	-34%
2-Year Event	A	88	22	-75%
	B	97	27	-72%
	C	139	80	-43%
	D	167	111	-33%

*See Attachment O

Peak Velocity Reductions at Comparison Locations				
	Point*	Existing velocity (ft/s)	Detention Pond (ft/s)	Percent Change
100-Year Event	A	4.8	4.6	-4%
	B	5.4	4.9	-10%
	C	6.0	5.2	-13%
	D	7.8	7.2	-8%
10-Year Event	A	4.6	4.1	-11%
	B	4.7	4.1	-13%
	C	5.1	4.6	-10%
	D	6.8	6.2	-10%
2-Year Event	A	4.0	2.8	-29%
	B	3.9	2.9	-28%
	C	4.3	3.9	-10%
	D	5.4	4.8	-11%

*See Attachment O

- iii. Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

The anticipated construction start date will be in November and construction should wrap up by late February. The reason for winter construction is to pick the time of the year with low potential for runoff. There are no plans for dewatering during construction.

Any permits needed for work within the DNR protected channel will be obtained before any work is to start.

All worked being proposed will have no impact on surrounding groundwater or any nearby wells.

iv. Surface Waters

- a) Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.

There are no plans to drain, fill, excavate or alter any wetlands. A "Joint Notification" application will be applied for through the wetland regulatory agencies for the proposed work. A pre-TEP meeting has already occurred where Scott County received comments from the wetland regulatory agencies and none seemed to think the proposed work would violate any regulations.

The improvements to each area are enhancements to the stream to better protect against erosion and the continuing incision of the channel bed. State funds are involved for funding the project as well, coupled together, these two items allow for the application of the Army Corps of Engineers General Permit. Early indications are this project will qualify for the General Permit, however, upon submittal of the "Joint Notification" application confirmation will be provided.

See Attachment P for an NWI map which can be, but not always, a precursory indicator of the potential presence of wetlands. The map indicates that no wetlands have been designated in and near the project area.

- b) Other surface waters - Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

Active channel incision and erosion within the ravine (both the DNR protected reaches and the other branch) has caused large amounts of sediment to be deposited in the channel under the bridge on County Road 6 and on the road itself. From 2010 to 2011, sediment issues caused 22 days of road closure; and from 2010 to 2012, 14,500 cubic yards of sediment were cleared from the channel and road surface in efforts to keep the road open. In 2013, a combination of sediment accumulation and debris jams caused the channel upstream of County Road 6 to divert flow; causing abutment scour damage to bridge constructed in 2012 and was closed for 3 days. In June of 2014, an estimated 11,000 cubic yards of sediment were removed from the bridge. The bridge's expansion joints blew out and the road was closed for 75 days. The Union Pacific railroad also suffered damage as the rail line was undermined.

The proposed activities are designed to reduce erosion and are described in detail as part of previous questions 6B and d, 10b and 11b, and are shown on the 60% design drawings included as Attachment C.

In the construction areas, both main channels have intermittent flow and do not hold water much after snow melt and after larger rain events. Watercraft is not passable in any area of the project.

12. Contamination/Hazardous Materials/Wastes:

- a. Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

There are no known contaminations or potential environmental hazards such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid.

There is a MinnCan pipeline which is operated by Koch Pipeline Company that carries oil (Attachment Q). This pipeline will not be affected by the project as no earthwork is planned around the pipeline. The pipeline runs parallel to the driveway at address 14580 Blakeley Trl., Belle Plaine, MN, 56011. The project will not have any construction within the pipeline easement. One rock check dam is proposed in the ravine downstream of the easement and pipeline. This check dam will reduce the risk of future channel incision in the easement. Even though there is no construction in the easements, there will be construction traffic that passes over the pipeline location. At the request of the pipeline company a bridge or something equivalent will be constructed over the pipeline area as to not compact the ground above the pipeline.

- b. Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to

avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

A small amount of municipal-type waste will likely be generated during the course of day-to-day operations and this waste will be collected in receptacles and removed regularly by a commercial waste-collection service.

- c. Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

Petroleum fuels, oils, and lubricants will be used by construction equipment on the site during the construction process. Quantities will be limited to those necessary for the required construction on site. There exists potential for spillage during refueling, maintenance, and operation of the required construction equipment on site, but is strictly limited to the machinery on site. All refueling and maintenance operations will be required to be conducted within the construction limits to minimize any spill or leakage and the potential for materials to be carried off site.

In the event of a spill or leakage, the construction site supervisor will be notified, and they will determine if there is any potential for serious ground or surface water contamination. If significant potential exists for contamination, the State Duty office and County Environmental Health department will be notified.

No tanks are required as part of this project. The only petroleum products on site will be located in the fuel and oil tanks of individual pieces of construction equipment on site. Any required equipment fueling will be provided by a mobile fueling service.

- d. Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.

No hazardous wastes will be generated as a result of the proposed project.

13. Fish, wildlife, plant communities, and sensitive ecological resources (rare features):

- a. Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.

There are native plant communities near the site of Elm, Basswood, Black Ash (Hackberry) Forest and Sugar Maple, Basswood (Bitternut Hickory) Forest (see Attachment R). Also, the site has more features as listed in part b. below. There are many wildlife species on or near the site including: wild turkey, quail, pheasant, deer, and numerous other small animals. These wildlife species will be temporarily displaced only during construction.

- b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-698) and/or correspondence number (ERDB _____) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

Scott County has a limited license agreement LA-698 to view the Department of Natural Resources (DNR) Natural Heritage Database (NHIS). The NHIS database has been reviewed to determine if any rare plant or animal species or other significant natural features are known to occur within the project area (Attachment R). It is acknowledged that "Data included here were provided by the Division of Ecological and Water Resources, Minnesota Department of Natural Resources (DNR), and were current as of October 2013. These data are not based on an exhaustive inventory of the state. The lack of data for any geographic area shall not be construed to mean that no significant features are present."

Based on the review of the NHIS database provided by the DNR the rare plants and animals, native plant communities, and rare features are listed below:

MCBS Native Plant Communities:

Dry Sand – Gravel Prairie (Southern)
Elm – Basswood – Black Ash – (Hackberry) Forest
Sugar Maple – Basswood – (Bitternut Hickory) Forest
Red Oak – Sugar Maple
Southern Floodplain Forest
Pin Oak – Bur Oak Woodland
Dry Hill Prairie (Southern)

MCBS Biodiversity of Significance:

High Biodiversity Significance

Rare Features Database:

Besseyia bullii Kitten-tails
Dry Sand – Gravel Prairie (Southern) UPs13b

Kitten-tails are a threatened species per Minnesota Statutes with a state ranking of 52 (impaired in Minnesota because of rarity or because of some factors(s) making it are especially vulnerable to extirpate from the state.) It is a small perennial forb found on Oak Savannah remnants on steep hillsides adjacent to large rivers and lakes.

Dry Sand – Gravel Prairie (Southern) UPs13b is a threatened prairie habitat consisting of native grasses and forbs (herbaceous plants other than grasses or sedges). Threatened or rare species of grasses and forbs could be found on this prairie habitat.

- c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

The above identified plant communities and rare features are close to the project site, but construction and operation will not affect any of these features. Construction traffic will be operated along existing 2-track roads, through the forests or using the channel. There will be some removal of trees in the forests in order to construct the improvements, access the ravines, and stage construction.

- d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

Attachment S provides an overlay of the maximum construction limits with the plant communities. No construction is proposed in areas where rare features (i.e., Kitten Tails) were identified, nor in associated habitat types (i.e., Dry Sand-Gravel Prairie). Where construction is planned traffic will be routed along existing 2-track roads in the forests, across already altered/disturbed areas or through the channels to minimize any adverse effects to the rare features and native plant communities listed above. The channels are already highly eroded with little vegetation. The channels are also intermittent in the construction areas with limited aquatic habitat.

Portions of Areas 1, 2, and 3 are within the area mapped as “High Biodiversity Significance” and channel improvements are limited to 2,800 ft. length from Station 30+00 to 58+00 then the remaining 2,700 ft. of improvements is outside the mapped area. Access through Area 2 to upstream areas where more improvements are proposed will be limited to the channel and existing 2-track roads. Specifications for the haul roads will limit tree removal to that necessary for a 14 to 16 foot width.

In Area 2, one within and one outside of the area mapped as “High Biodiversity Significance” there are two small areas proposed to be cleared. The one within the mapped area, approximately 1.9 ac. in size, will be cleared at the end of the 2-track road for equipment off-loading and turnaround. The other area approximately 300 ft. upstream, 1.4 acres in size will be cleared for a staging area and to turn around. Following construction the larger site will be seeded with a native species mix (DOT or BWSR) and allowed to return to forest. The smaller area will be left for the land owners to create a wildlife food plot at their request.

Along the DNR waters, in Areas 3 and 4, impacts to existing forest and habitat will be minimized. The downstream end of the DNR waters of the west branch (located in the mapped “High

Biodiversity Significance”) has easy access across fields and areas already disturbed to the channel and locations where improvements are proposed, such that only limited tree removal will be necessary (see Attachment S).

In Area 4, a couple of grade control structures and a detention pond and control structure will be constructed. Vegetation clearing will be limited in these areas to only that needed to access and construct the improvements. Some removal of deadfall is planned for the detention pond area to minimize the risk of debris impacting and plugging the control structure. The detention pond is designed to draw down within 48 hours of a 100-year storm event in order to minimize the impact to vegetation.

In Area 3, there are plans to widen the permanent buffer of native vegetation where agricultural fields or maintained vegetation is close to the stream. In this same area there are efforts to establish a floodplain. All disturbed areas (except where hard armored) will be stabilized using a native seed mix per BWSR or MnDOT specifications. The mix shall be tailored to soil conditions and the amount of sunlight the area shall receive as some areas along both branches have a fairly thick canopy.

In Area 3, a bio-engineered streambank stabilization project is planned near station 52+00. The streambank stabilization will consist of using anchored cedar trees to the bank in an effort to reduce erosion. Willow or dogwood stakes shall be planted behind the cedar trees to establish vegetation to stabilize the bank from further erosion.

14. Historic properties:

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

Historic Designations

Minneapolis Valley Railroad/Chicago & North Western Railway in Blakely Township located at 113N 25W Section 3 SW-SW Quarter (Attachment T).

Archeological Features

21SC0087 Site Number, Chard I Site Name, Located at 113N 25W Section 3 NE-NW-SE-SW Quarter.

21SC0088 Site Number, Chard II Site Name, Located at 113N 25W Section 3 SW-SE-NE-SW Quarter.

21SC0089 Site Number, Chard III Site Name, Located at 113N 25W Section 3NW-SW-SE-SW Quarter.

These historic properties are within the same Township, Range, and Section of the project but the project will not impact any of these Historic Designations and Archeological Features. There will be no effects from the project or construction traffic during the project to the Historic Designations or Archeological

Features listed (Attachment U).

Please see Attachment V which is a letter received from the State Historic Preservation Office (SHPO).

15. Visual:

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

There should be no visual effects during the project from vapor plumes or glare from intense lights. There will not be a significant change in the number of trees due to construction sufficient to create a visual impact. Construction will not occur overnight.

16. Air:

- a. Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

There are no stationary sources of air emissions (i.e., boilers or other industrial processes) associated with the proposed Project. Dust generated during construction is discussed below; the proposed Project would not create process or operational dust.

- b. Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

Construction equipment and employee's personal vehicles would be required to access or be near the site. Air emissions from these sources are expected to be consistent with the burning of #2 fuel oil and/or gasoline and include: carbon monoxide, nitrogen oxides, particulate matter, sulfur dioxide, volatile organic compounds, greenhouse gasses, and hazardous air pollutants. However, given the small number of vehicles at the site, associated emissions are expected to have a minimal impact to air quality.

To minimize emission impacts, it is expected that construction equipment and personal vehicles would be maintained in proper working order and be shut off when not in use.

- c. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

Certain activities associated with construction of the proposed Project are expected to generate dust. These activities would be temporary and would only last for portion of project construction. The use of water trucks or other suitable dust suppression methods could be used to manage construction dust. The temporary increase in dust during construction is not expected to alter the quality of life for nearby residences, animals, or vegetation, and given winter construction is expected to be minimal.

The only odors anticipated to result from the proposed Project are those associated with diesel exhaust from equipment during project construction. These effects would be temporary and last only for the duration of construction.

17. Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

The proposed Project is located in a rural setting and will not result in a long-term increase of existing noise levels at the site; however, noise would temporarily be increased during construction. The nearest sensitive receptors are three rural residences. One is located adjacent to an access route for Area 1; one is approximately 100-feet from grading and placing of riprap in Area 3; and one is approximately 700-feet south of the sheet pile structure in Area 4. Construction noise associated with the proposed Project is expected to be in compliance with state noise standards and would not permanently alter noise in the project setting. Measures that could be taken to reduce noise impacts to nearby residences include maintaining daytime working hours, using equipment appropriately sized for the project, and maintaining equipment in proper working order.

All noise impacts associated with the proposed Project would be related to construction; operational noise is not anticipated.

18. Transportation

- a. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

The proposed Project is located in a rural setting with no designated public parking or available public transit. There will be no additional parking spaces required for construction or operation of the proposed Project.

During the construction phase, it is estimated that 20 to 40 trips per day would be required for construction equipment and employees to access and leave the project site. This is a small number of trips and is not expected to affect maximum peak hour traffic levels or occurrence times.

- b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. *If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW.* Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 (available at: <http://www.dot.state.mn.us/accessmanagement/resources.html>) or a similar local guidance,

During construction, heavy equipment and employees would be required to access the site in order to build the proposed Project. The presence of construction-related traffic on-site and using the local roadway would be temporary and last only for the duration of construction. The proposed Project would not generate significant traffic increases to or from the site; as such, a traffic impact study is not warranted. The proposed Project would not require modifications to existing traffic controls or transportation infrastructure.

- c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

The proposed Project would not result in a significant change to existing transportation conditions. As such, minimization or mitigation measures for transportation effects are not required, but a controlled access will be used by construction vehicles entering and leaving the site.

19. Cumulative potential effects: (Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)

- a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

Blakeley Township where the project is located is rural, and agricultural. There are no businesses adjacent to the project area except for a sand/gravel mine. Thus, there is no residential growth or future business activity planned for the area per the Scott County 2030 Comprehensive Land Use Plan Update.

- b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

Foreseeable future projects include the following:

- Resurfacing of County Road 6 scheduled for 2016
- Resurfacing of County Road 60 scheduled for 2016
- Repair and rerouting of County Road 60 where it failed during the disaster, approximately 1.5 miles west of this proposed project. Scheduled to start spring of 2016.
- Development of the Blakeley Parks Preserve Regional Park estimated to be at least ten years out.
- Conservation practices by individual land owners in 2015/2016.

- c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

The cumulative impacts of these efforts together with the proposed projects are expected to be minimal, except for positive impacts to traffic. Repair and rerouting of County Road 60 will provide and additional access into the Town of Blakeley that that is not subject to flooding, while the proposed project will make access by County Road 6 more reliable. Because the timing of the road resurfacings and repairs, the proposed project is different with it being winter construction, construction traffic issues are not anticipated. The resurfacing projects within the Quarry Creek watershed will not create additional impervious surfaces or increasing runoff.

A number of land owners in the Quarry Creek watershed are also planning construction practices or repairs to erosion damages caused by the June 2014 disaster. These are still in development, but those that are designed in time may be bundled with the bid package for the proposed project so that construction can take place concurrently. Others will be completed independently, probably in 2016. Practices currently being considered by the land owners in the watershed include: several Water and Sediment Control Basins, repair to a Grassed Waterway, a Grade Stabilization Structure, and a native prairie planting. The cumulative impact of these activities will be a slight increase in construction traffic and construction (since these are small practices), but a longer term positive impact in runoff reduction, erosion control and downstream water quality.

- 20. Other potential environmental effects:** If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

All potential impacts have been addressed in items 1 through 19.

RGU CERTIFICATION. *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature

Paul Noh

Date

4/17/15

Title

Environmental Services
Program Manager

ⁱ Minnesota Pollution Control Agency, 2009. Identifying sediment sources in the Minnesota River Basin. Wq-b3-43.